Deep vein thrombosis in a woman taking oral combined contraceptive pills

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ABSTRACT

Oral combined contraceptive pill (OCCP) is popular as birth control pills. Like all other drugs, they are not free from risks. Women taking certain types of OCCP have higher risk of developing deep vein thrombosis (DVT). A 29 year old married woman had taken OCCP for 3.5 months, developed deep vein thrombosis of left leg. Hereditary and acquired causes of DVT were excluded. She was treated with parenteral and oral anticoagulants simultaneously and was advised to discontinue OCCP. Initially the risk of blood clot was believed to be due to dose of estrogen but recent study relates it to the type of progesterone involved in OCCP. Thus, it is still a matter of debate, whether to associate risk of DVT to the amount of estrogen alone or also to the type of progestin. Apart from careful selection of patients, one should also look for the risk of venous thromboembolism irrespective of type of OCCP prescribed.

Key words: Deep vein thrombosis, hypercoagulability, oral combined contraceptive pill, thromboembolism

INTRODUCTION

Oral combined contraceptive pill (OCCP) is an effective form of birth control and is used to treat a number of other conditions. Like any other drug, OCCPs are not free from risks. Women taking OCCP have higher risk of developing deep vein thrombosis (DVT), usually in the legs, and this may lead to pulmonary embolism, a serious complication. For every 100,000 women aged 15–44 years not taking pill, approximately 5–10 are likely to develop blood clot in 1 year and this risk increases 3–4 times in those using second-generation OCCP and 6–8 times in those using third-generation OCCP.[1]

Access this article online	
Quick Response Code:	Website: www.jpharmacol.com
	DOI: 10.4103/0976-500X.83284

CASE REPORT

A 29-year-old married woman was referred for surgical opinion for pain and swelling of left leg since 2 days. On examination, her left limb was swollen and tender. Color Doppler sonography confirmed early DVT. She also complained of nasal blockage and was diagnosed to have severe persistent asthma concomitantly. Except high erythrocyte sedimentation rate (ESR), complete blood count (CBC) and biochemical parameters were normal. She had history of taking OCCP (ethinylestradiol 30 µg, levonorgestrel 0.15 mg) since last 3.5 months for which she had consulted a gynecologist and also prednisolone on and off for allergic rhinitis. Wells Predictive pretest probability score was applied. Score for this patient was 1; thus, she had moderate pre-test probability for DVT (17% prevalence). She was treated with parenteral anticoagulant and simultaneously oral anticoagulant was started. She also received treatment for asthma (nebulized bronchodilators and inhaled steroid) concurrently. On discharge (5th day), she was advised to continue oral anticoagulant and local hirudoid cream for 2 weeks and continue medication for asthma. She was instructed for follow-up after 3 days for prothrombin

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time (PT)/International Normalized Ratio (INR) test. She was advised to discontinue OCCP.

DISCUSSION

The patient had no history of contributory factors that increase the risk of DVT (like immobility, overweight, pregnancy, smoking, major surgery).[2,3] Special tests for DVT were negative which exclude hereditary and other acquired causes of hypercoagulability.[4] Causality of DVT by OCCP was assessed by Naranjo's criteria and this adverse drug reaction was "probable" category.[5]

In various generations of OCCP, estrogen is the common ingredient, while the type of progestogen is different. First generation OCCP contains lynestrenol. Second generation pills contain levonorgestrel or, less often, norgestrel, while third generation pills contain desogestrel or gestodene. Initially, estrogen was thought to increase the clot risk. Therefore, the dose of estrogen was lowered stepwise from 100 μg to 35–50 μg in newer generation pills.[6] A recent Dutch study has shown that higher risk of developing blood clots is linked to new type of progestins such as drospirenone, desogestrel, lesser risk with gestodene, while levonorgestrel is still safer.[6,7] Another study also supports the contention that risk of blood clots is higher with third generation pills.[8] Thus, it is still a matter of debate whether to associate risk of DVT only to the amount of estrogenor also to the type of progestin. The patient reported here was using second generation OCCP, which is supposed to be safer than third generation pills. It is therefore suggested that apart from careful selection of patients, one should not overlook the possibility of thromboembolic disorder irrespective of the type of OCCP prescribed.

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How to cite this article: Piparva KG, Buch JG. Deep vein thrombosis in a woman taking oral combined contraceptive pills. J Pharmacol Pharmacother 2011;2:185-6.

Source of Support: Nil, **Conflict of Interest:** None declared.